

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. 2001-NE-11-AD; Amendment 39-12977; AD 2002-25-02]**

**RIN 2120-AA64**

### **Airworthiness Directives; Honeywell International Inc. TPE331-3, -5, -6, -8, -10, and -11 Series Turboprop and TSE331-3 Series Turboshaft Engines**

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD), that is applicable to Honeywell International Inc. (formerly AlliedSignal Inc., Garrett Turbine Engine Company and AiResearch Manufacturing Company of Arizona) TPE331-3, -5, -6, -8, -10, and -11 series turboprop and TSE331-3 series turboshaft engines. This amendment requires removing weld repaired first stage compressor impellers from service. This amendment is prompted by an uncontained TPE331-11U turboprop engine failure and an in-flight shutdown due to the separation of the first stage Ti 6-4 compressor impeller. The actions specified by this AD are intended to prevent uncontained engine failures, in-flight shutdowns, and secondary damage.

**DATES:** Effective January 21, 2003. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 21, 2003.

**ADDRESSES:** The service information referenced in this AD may be obtained from Honeywell Engines, Systems and Services, Technical Data Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; telephone: (602) 365-2493 (General Aviation), (602) 365-5535 (Commercial); fax: (602) 365-5577 (General Aviation and Commercial). This information may be examined, by appointment, at the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood CA 90712-4137; telephone: (562) 627-5246; fax (562) 627-5210.

**SUPPLEMENTARY INFORMATION:** A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an AD that is applicable to Honeywell International Inc. (formerly AlliedSignal Inc., Garrett Turbine Engine Company and AiResearch Manufacturing Company of Arizona) TPE331-3, -5, -6, -8, -10, and -11 series turboprop and TSE331-3 series turboshaft engines was published in the Federal Register on July 25, 2002 (67 FR 48577). That action proposed to require removing weld repaired first stage compressor impellers from service, in accordance with Honeywell Alert Service Bulletin TPE331-A72-2083, revision 1, dated May 17, 2002.

## **Comments**

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comment received.

One commenter states that paragraph (a)(3) as-written in the proposal, implies that the 12,500 cycle limit applies only to weld repairs that would be performed after the effective date of the AD. The FAA agrees, and has moved the last phrase of that paragraph which states, after the effective date of the AD, to the beginning of the sentence, for clarity.

After careful review of the available data, including the comment noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the change described previously. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

## **Economic Analysis**

There are approximately 2,040 engines of the affected design in the worldwide fleet. The FAA estimates that 1,020 engines installed on aircraft of U.S. registry would be affected by this AD. The FAA estimates that 1,000 engines will have the required actions done during a scheduled engine overhaul. The FAA also estimates that it would take approximately 2 work hours per engine to do the actions during scheduled engine overhauls and 80 work hours per engine during unscheduled engine overhauls, and that the average labor rate is \$60 per work hour. Required parts would cost approximately \$9,600 per engine to do the actions during scheduled engine overhauls and \$14,600 per engine which includes consumables, during unscheduled engine overhauls. Based on these figures, the total cost of the AD on U.S. operators is estimated to be \$10,108,000.

## **Regulatory Analysis**

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption ADDRESSES.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

### **PART 39—AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. Section 39.13 is amended by adding a new airworthiness directive to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service  
Washington, DC



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

*We post ADs on the internet at "[www.airweb.faa.gov/rgl](http://www.airweb.faa.gov/rgl)"*

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2002-25-02 Honeywell International Inc.:** Amendment 39-12977. Docket No. 2001-NE-11-AD.

**Applicability:** This airworthiness directive (AD) is applicable to Honeywell International Inc. (formerly AlliedSignal Inc., Garrett Turbine Engine Company and AiResearch Manufacturing Company of Arizona) TPE331-3, -5, -6, -8, -10, and -11 series turboprop and TSE331-3 series turboshaft engines. These engines are installed on, but not limited to Ayres S-2R series; Beech 18 and 45 series and Models JRB-6, 3N, 3NM, 3TM, and B100; Cessna Model 441; Construcciones Aeronauticas, S.A. (CASA) C-212 series; De Havilland DH 104 series 7AXC (Dove); Dornier 228 series; Fairchild SA226 and SA227 series (Swearingen Merlin and Metro series); Grumman American G-164 series; Jetstream 3101; Mitsubishi MU-2B series (MU-2 series); Prop-Jets, Inc. Model 400; Rockwell Commander S-2R; Shorts Brothers and Harland, Ltd. SC7 (Skyvan); Pilatus PC-6 series (Fairchild Porter and Peacemaker); and Schweizer G-164 series; and Twin Commander Aircraft Corp. (Jetprop Commander) Models 695 and 695A airplanes; and Sikorsky S-55 series (Helitec Corp. S55T) helicopters.

**Note 1:** This AD applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

**Compliance:** Compliance with this AD is required as indicated, unless already done.

To prevent an uncontained engine failure, in-flight shutdown, and secondary damage, do the following:

## **Removal of Weld Repaired First Stage Compressor Impellers From Service**

(a) Remove from service weld repaired first stage compressor impellers, P/N's 896223-1, -2, -3, and -7 and 3107109-2, with SN's listed in Table 1 and Table 2 of the Accomplishment Instructions in 2.A.(1) and 2.A.(2) of Honeywell Alert Service Bulletin TPE331-A72-2083, revision 1, dated May 17, 2002, in accordance with the following schedule:

(1) Remove impellers with no record of cycles since weld repair, within 3,600 cycles-in-service (CIS) or at the next engine overhaul, or at the next major Continuous Airworthiness Maintenance (CAM) compressor section inspection, after the effective date of this AD, whichever occurs first.

(2) Remove impellers with more than 8,900 cycles since "weld repair," within 3,600 CIS, or at the next engine overhaul, or at the next major CAM compressor section inspection after the effective date of this AD, whichever occurs first.

(3) After the effective date of this AD, remove impellers with 8,900 or less cycles since "weld repair," before reaching 12,500 cycles since weld repair.

(b) For purposes of this AD, weld repaired or weld repair is defined as an impeller repair which involved heat treating and that was performed from 1980 through 1997 at Honeywell Aerospace Services, Aftermarket-Phoenix Repair and Overhaul, 1944 E. Sky Harbor Circle, Phoenix, AZ. 85034 (FAA Certificate Number ZN3R030M). Former names and FAA certificate numbers for Honeywell's Repair and Overhaul Facility are listed in section 2.A. of the Accomplishment Instructions in Honeywell Alert Service Bulletin TPE331-A72-2083, revision 1, dated May 17, 2002.

### **Alternative Methods of Compliance**

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Los Angeles Aircraft Certification Office (ACO). Operators must submit their request through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Los Angeles ACO.

**Note 2:** Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Los Angeles ACO.

### **Special Flight Permits**

(d) Special flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the requirements of this AD can be done.

### **Documents That Have Been Incorporated by Reference**

(e) The impeller removals must be done in accordance with Honeywell International Inc. Alert Service Bulletin TPE331-A72-2083, revision 1, dated May 17, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Honeywell Engines, Systems and Services, Technical Data Distribution, M/S 2101-201, P.O. Box 52170, Phoenix, AZ 85072-2170; telephone: (602) 365-2493 (General Aviation), (602) 365-5535 (Commercial); fax: (602) 365-5577 (General Aviation and Commercial). Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

### **Effective Date**

(f) This amendment becomes effective on January 21, 2003.

Issued in Burlington, Massachusetts, on December 2, 2002.

Jay J. Pardee,  
Manager, Engine and Propeller Directorate, Aircraft Certification Service.  
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